
**Contributions from the Herbarium of the
Geological Survey of Canada.**

(By Permission of the Director.)

**By JAMES M. MACOUN,
*Curator of the Herbarium.***

VI.

Reprinted from the Canadian Record of Science, April, 1895.

CONTRIBUTIONS TO CANADIAN BOTANY.

By JAMES M. MACOUN.

VI.

CALTHA LEPTOSEPALA, DC.

Mount Queest, Shuswap Lake, B.C. (*Jas. M. Macoun.*)
Mountains at Roger's Pass, B.C.; mountains north of
Griffin Lake, B.C.; Mount Arrowsmith, Vancouver
Island, alt. 5,500 feet. (*John Macoun.*) Not before
recorded from Vancouver Island.

DRABA ALPINA, L., var. GLACIALIS, Dickie.

Cornwall Hills, west of Ashcroft, Thompson River, B.C.,
alt. 6,600 feet. (*Jas. McEvoy*, Herb. No. 5098.*) Not
recorded west of Rocky Mountains.*²

LUPINUS LAXIFLORUS, Dougl.

Deer Park, Lower Arrow Lake, B.C.; Sproat, Columbia
River, B.C., 1890. (*John Macoun.*)

LUPINUS NOOTKATENSIS, Don.

Revelstoke and Sproat, Columbia River, B.C.; mountains
north of Griffin Lake, B.C. (*John Macoun.*) Mountains
south of Tulameen River, B.C. (*Dr. G. M. Dawson.*) North
Thompson River B.C.; Mt. Queest, Shuswap Lake, B.C.;
Toad Mountain, Kootaine Lake, B.C. (*Jas. M. Macoun.*)
East of Stump Lake, B.C. (*Jas. McEvoy.*) Cariboo
Mountains, B.C. (*Amos Bowman.*) Not before recorded
from interior of British Columbia. The above references
include forms which may be ultimately separated into
varieties.

* Whenever herbarium numbers are given, they are the numbers under which specimens have been distributed from the herbarium of the Geological Survey of Canada.

*² The geographical limits given in this paper refer to Canada only.

MELILOTUS OFFICINALIS, Willd.

Along the streets of Banff, Rocky Mountains, and in gardens at Spence's Bridge, B.C. (*John Macoun*.) Not before recorded west of Ontario, though probably of general distribution throughout the settled parts of Canada.

MEDICAGO DENTICULATA, Willd.

On ballast at Nanaimo, Vancouver Island. (*John Macoun*, Herb. No. 125.) The var. *apiculata*, Willd., was collected by Prof. Macoun at the same place in 1887.

MEDICAGO SATIVA, L.

Ballast heaps at Nanaimo, Vancouver Island. (*John Macoun*.) Not before recorded west of Ontario.

TRIFOLIUM HYBRIDUM, L.

Medicine Hat, Assa.; Banff, Rocky Mountains; Roger's Pass, Selkirk Mountains; Nanaimo, Vancouver Island. (*John Macoun*.)

TRIFOLIUM PAUCIFLORUM, Nutt.

On gravel, Penticton, Lake Okanagan, B.C., 1889. (*John Macoun*.) Only record from interior of British Columbia.

OXYTROPIS CAMPESTRIS, DC.

Dry banks of the Upper Liard River, Lat. 60° , Yukon District, 1887. (*Dr. G. M. Dawson*.) Fort Severn, Hudson Bay, 1886. (*Jas. M. Macoun*.)

OXYTROPIS VISCIDA, Nutt.

Dry banks, Dease Lake, Lat. $58^{\circ} 30'$, B.C., 1887. (*Dr. G. M. Dawson*.)

VICIA AMERICANA, Muhl., var. LINEARIS, Wat.

In thickets at Nanaimo, Vancouver Island, 1887. (*John Macoun*.) Not before recorded west of Rocky Mountains.

VICIA CRACCA, L.

Meadows at Spence's Bridge, B.C., 1889. (*John Macoun.*) Not before recorded west of Ontario.

LATHYRUS OCHROLEUCUS, Hook.

Thickets at Agassiz, B.C., 75 miles from coast. (*John Macoun.*) Western limit in Canada.

LATHYRUS PALUSTER, L.

Thickets at Barclay Sound, Vancouver Island. (*John Macoun.*) Not before recorded from Vancouver Island.

PRUNUS SPINOSA, L., var. INSTITIA, Gray.

In thickets, Pelee Island, Lake Erie, 1892. (*John Macoun.*) Not before recorded from Canada. Naturalized.

PRUNUS PENNSYLVANICA, L.

Forming thickets throughout Labrador north to Lat. 54°. (*A. P. Low.*)

SPIRÆA BETULIFOLIA, Pallas.

Peel's River, Mackenzie River Delta, 1892. (*Miss E. Taylor.*) Northern limit in Canada.

SPIRÆA DISCOLOR, Pursh., var. ARIEFOLIA, Wat.

Woods at Sicamous, B.C., and Sproat, Columbia River, B.C. (*John Macoun.*) Not before recorded from interior of British Columbia.

SPIRÆA DOUGLASHII, Hook, var. NOBLEANA, Wat.

Thickets at Revelstoke, B.C., 1890. (*John Macoun.*) Not before recorded from Canada.

SPIRÆA PECTINATA, T. & G.

Peel's River, Mackenzie River, 1889. (*R. McConnell.*) Northern limit in Canada.

RUBUS STRIGOSUS, Michx.

In river valleys north to Lat. 57° , Labrador. (*A. P. Low.*) Lat. $60^{\circ} 17'$, Long. $103^{\circ} 07'$. (*Jas. W. Tyrrell.*) Peel's River, Mackenzie River Delta. (*Miss E. Taylor.*)

RUBUS LEUCODERMIS, Dougl.

In thickets, Deer Park, Lower Arrow Lake, B.C., 1890. (*John Macoun.*) Eastern limit.

GEUM CALTHIFOLIUM, Menzies.

Lincoln Mt., Observatory Inlet, B.C., 1893. (*Jas. McEvoy.*) Not found in Canada since Menzies' time.

GEUM MACROPHYLLUM, Willd.

Cedar Hill and Comox, Vancouver Island. (*John Macoun.*) Not before recorded from Vancouver Island.

GEUM STRICTUM, Ait.

Fort Simpson, Lat. 62° , Mackenzie River. (*Miss E. Taylor.*) Common in the vicinity of Victoria, Vancouver Island. (*John Macoun.*)

POTENTILLA GLANDULOSA, Lindl.

Eagle Pass, B.C.; Nanaimo and Mount Benson, Vancouver Island. (*John Macoun.*) Not before recorded from Vancouver Island.

POTENTILLA RIVALIS, Nutt., var. **MILLEGRANA**, Wat.

Borders of irrigation ditches, Spence's Bridge, B.C., 1889. (*John Macoun.*) Perhaps introduced. Not before recorded west of Rocky Mountains.

SIBBALDIA PROCUMBENS, Linn.

Mount Queest, Shuswap Lake, B.C. (*Jas. M. Macoun.*) Mountains at Griffin Lake, B.C., alt. 6,000 feet; Mount Arrowsmith, Vancouver Island, alt. 5,600 feet. (*John Macoun.*) Not before recorded from Vancouver Island.

AGRIMONIA EUPATORIA, Linn.

Moist thickets, mouth of Kootaine River, B.C. (*Dr. Geo. M. Dawson.*) Revelstoke and Agassiz, B.C. (*John Macoun.*) Not before recorded west of the Rocky Mountains.

POTERIUM CANADENSE, Benth & Hook.

Common in river valleys in Labrador, north to Lat. 58°. (*A. P. Low.*)

POTERIUM SANGUISORBA, Linn.

In fields at Spence's Bridge, B.C. (*John Macoun.*) Not recorded west of Ontario. This reference was placed by mistake under *P. annuum* by Prof. Macoun. (Cat. Can. Plants, vol. II, p. 319.)

PIRUS AMERICANA, DC.

Not rare in interior of Labrador north to Lat. 54°. (*A. P. Low.*)

SAXIFRAGA NIVALIS, Linn.

Borders of coulees, Cypress Hills, Assa., 1894. (*John Macoun*, Herb. No. 4921.) Not before recorded between Hudson Bay and the Rocky Mountains.

HEUCHERA CYLINDRICA, Dougl., var. GLABELLA, Wheelock.

H. Hallii, Macoun, Cat. Can. Plants, Vol. I., p. 158, in part.

Summit of South Kootanie Pass, Rocky Mountains. (*Dr. G. M. Dawson.*)

HEUCHERA CYLINDRICA, Dougl., var. OVALIFOLIA, Wheelock.

H. Hallii, Macoun, Cat. Can. Plants, Vol. I., p. 158, in part.

H. cylindrica, Dougl., var. *alpina*, Macoun, Cat. Can. Plants, Vol. I., p. 526.

Crow Nest Pass, Rocky Mountains; South of Kamloops, B.C. (*Dr. G. M. Dawson.*) Morley and Kananaskis, foot-hills of Rocky Mountains; Eagle Pass, B.C.; Spence's Bridge, B.C. (*John Macoun.*)

DROSERA INTERMEDIA, Drev. & Hayne, var. AMERICANA, DC.

Upper West Branch, Hamilton River, Labrador, 1894. (*A. P. Low*, Herb. No. 4998.) Not before recorded from Labrador.

LYTHRUM ALATUM, Pursh.

Damp ground, Griffin Lake, B.C., 1889. (*John Macoun.*) Not before recorded in Canada west of Ontario, though found in Colorado. It is possible that the seeds of the Griffin Lake plants were in some way introduced, though this is not probable.

ASTER PUNICEUS, L.

Lake Michikamow, Labrador, 1894. (*A. P. Low.*) Not before recorded from Labrador.

ANTENNARIA DIMORPHA, Torr & Gray.

Clay banks near the Police Barracks, Medicine Hat, Assiniboia, 1894. (*John Macoun*, Herb. No. 5052.) Not before recorded east of British Columbia.

HELIANTHUS TUBEROSUS, L.

H. doronicoides, Lam; Macoun, Cat. Can. Plants, vol. I., p. 246.

Along the Thames River at Chatham, Ont., 1894. (*John Macoun*, Herb. No. 5064.) Indigenous.

TUSSILAGO FARFARA, L.

Roadsides near Sutton Junction, Que. (*Jas. Fletcher.*) Near Toronto, Ont. (*Mrs. White.*) Along the shore of Cedar Island, Niagara River, Ont., 1894. (*R. Cameron*, Herb. No. 4941.) Not before recorded west of New Brunswick.

THELOSPERMA AMBIGUUM, Gray.

On the banks of the Saskatchewan River at Police Point, Medicine Hat, Assiniboia, May 31st, 1894. (*John Macoun*, Herb. No. 5073.) New to Canada.

GILIA MINIMA, Gr.

All references under *G. intertexta*, Steud.; *Macoun*, Cat. Can. Plants, Vol. I., p. 330, go here.

GILIA INTERTEXTA, Steud.

Along an old road near Victoria, Vancouver Island, 1893. (*John Macoun*, Herb. No. 658.) First Canadian record.

ECHINOSPERMUM REDOWSKII, Lehm., var. CUPULATUM, Gr.

Abundant in the vicinity of Medicine Hat, Assiniboia, 1894. (*John Macoun*, Herb. No. 5806.) Not before recorded east of British Columbia.

KRYNITKIA CRASSISEPALA, Gray.

Dry prairies near Medicine Hat, Assa., 1894. (*John Macoun*, Herb. No. 5803.) Our only Canadian specimens, though recorded from the Saskatchewan in Gray's Flora of North America.

MYOSOTIS ARVENSIS, Hoffm.

In a brook (No. 693) and on ballast (No. 694), at Nanaimo, Vancouver Island, 1893. (*John Macoun*.) Not before recorded west of Ontario.

ASPERGO PROCUMBENS, L.

Along garden fences, Whitby, Ont., 1894. (*Chas. McIlwray*, Herb. No. 4954.) New to Canada.

CONVOLVULUS ARVENSIS, Linn.

Ashcroft, B.C. (*Jas. McEroy*.) Cedar Hill, near Victoria, and on ballast heaps at Nanaimo, Vancouver Island. (*John Macoun*.) Not before recorded west of Ontario.

SALSOLA KALI, L., var. TRAGUS, DC.

Reported from several localities in Ontario. Abundant and spreading in Manitoba.

EUPHORBIA PRESLI, Guss.

In cultivated fields near Chatham, Ont., 1894. (*John Macoun*, Herb. No. 5898.) The only specimens in our herbarium, though reported from Hamilton, Ont., by Buchan.

SAGITTARIA, Linn.

The publication of Mr. Smith's revision of the North American species of *Sagittaria* and *Lophotocarpus* in the Sixth Report of the Missouri Botanic Garden has so altered the nomenclature and has in a few instances so materially affected our knowledge of the distribution of the species known to occur in Canada, that a complete revision of the references given by Prof. Macoun in Parts IV. and V. of his catalogue is necessary. Many additional references are also given, and the descriptions of two easily confounded species are copied from Mr. Smith's revision, as it is in the hands of very few Canadian botanists. All our herbarium specimens have been examined by Mr. Smith.

S. ARIFOLIA, Nutt. in herb.

S. variabilis, var. *hastata*, Macoun, Cat. Can. Plants, Vol. II., p. 77, forms *b* and *c* in part.

Terrestrial, or emergent aquatic, weak, ascending, 2 to 4 dm. high; petioles rather stout, usually curving outward; blade of leaf 6 to 12 or 18 cm. long, arrow-shaped, acute, the margin mostly straight or arcuate, basal lobes divergent, acute or acuminate; scape weak, ascending, simple or rarely branched; bracts lanceolate, acute, 8 to 20 mm. long, scarious margined and obscurely veined, often reflexed; 1 to 3 lower verticils pistillate; fertile pedicels ascending, 15 to mostly 25 mm. long, or sometimes almost wanting;

fruiting head round, 8 to 15 mm. in diameter; achenium 2 mm. long, tumid winged on both margins, the sides smooth, or often with a vertical subepidermal resin passage. Phyllodia of two forms, either long slender, petiole-like, or flattened, linear-lanceolate, 2 to 5 dm. long and 10 to 15 mm. wide.

Grande Vallée, Gaspé, Que.; Nipigon River, Ont.; Hand Hills and Eagle Hills, Alberta; Sicamous, B.C.; Kamloops, B.C. (*John Macoun.*) Manitoba. (*Bourgeau.*) Moose Mountain Creek, Assa. (*Jas. M. Macoun.*)*

S. CUNEATA, Sheldon.

S. variabilis, var. *diversifolia*, Macoun, Cat. Can. Plants, Vol. II., p. 78, in part.

S. variabilis, var. *gracilis*, Macoun, Cat. Can. Plants, Vol. II., p. 78, in part.

Eagle Hills, Alberta; Sicamous, B.C. (*John Macoun.*) South Thompson River, B.C. (*Dr. G. M. Dawson.*)

S. LATIFOLIA, Willd.

Monœcious, with the lower verticils fertile, or diœcious; scape 1 to 12 dm. high, angled simple or branched; flowers large, 2 to 4 cm. wide, the petals white; stamens numerous, 25 to 35; fertile pedicels shorter than the sterile; bracts sometimes connate in the upper verticils, acute, acuminate, or obtuse, not scarious; achenium broadly winged on both margins, 2.5 to 3.5. or rarely 4 mm. long, with a lateral horizontal or curving beak $\frac{1}{4}$ to $\frac{1}{3}$ its length, sides usually smooth or with a costate angle curving downward from the base of the beak, rarely with a subepidermal resin passage on each face.

Mr. Smith recognizes five forms of this species, two of which with the species proper are found in Canada.

* No localities are given in this paper except those from which there are specimens in the herbarium of the Geol. Survey, or which are included in Mr. Smith's revision.

S. latifolia, proper.

S. variabilis, var. *hastata*, form *a*, Macoun, Cat. Can. Plants, Vol. II., p. 77, in part.

North Pond, and Mt. Stewart, Prince Edward Island; Nation River, near Casselman, Ont. (*John Macoun.*) Ottawa, Ont. (*Wm. Macoun.*) Little Buffalo Lake, Sask. (*Jas. M. Macoun.*)

Form *a*.

S. variabilis, var. *obtusata*, Macoun, Cat. Can. Plants, Vol. II., p. 77, in part.

S. variabilis, var. *angustifolia*, Macoun, Cat. Can. Plants, Vol. II., p. 78, in part.

Campbellton, N.B. (*R. Chalmers.*) Nation River at Casselman, Ont.; Belleville, Ont. (*John Macoun.*)

Form *c*.

S. variabilis, var. *hastata*, forms *b* and *c*, Macoun, Cat. Can. Plants, Vol. II., pp. 77 and 78, in part.

Prince Edward Island; Bay of Quinté, Ont.; Lulu Island, mouth of Fraser River. (*John Macoun.*) New Brunswick. (*Chadborne.*) Lake Temiscouata, Que. (*Northrup.*) Missinaiba River, Ont. (*Dr. R. Bell.*) Manitoba. (*Bourgeau.*) Muskeg Island, Lake Winnipeg, Man. (*Jas. M. Macoun.*)

S. LATIFOLIA, Willd., var. *PUBESCENS*, (Muhl.) J. G. Smith.

S. variabilis, var. *pubescens*, Macoun, Cat. Can. Plants, Vol. II., p. 78.

Specimens collected in the Bay of Quinté, Ont., by Prof. Macoun, with pubescent bracts that are transition forms between this variety and the dioecious form *a* of the species have been referred here by Mr. Smith.

S. RIGIDA, Pursh.

S. heterophylla, and var. *rigida*, Macoun, Cat. Can. Plants, Vol. II., pages 78 and 79.

Abundant in many places about Ottawa, Ont. (*Fletcher, Fl. Ott.*) In several places in the vicinity of Belleville, Ont., and Weller's Bay, Lake Ontario. (*John Macoun.*)

S. GRAMINEA, Michx, Macoun, Cat. Can. Plants, Vol. II., p. 79.

Newfoundland. (*Miss Brenton.*) North Sydney, Cape Breton, N.S.; Gull River, Victoria Co., Ont. (*John Macoun.*) Several stations in New Brunswick. (*Fowler's Cat.*) Little Tobique River, N.B. (*G. U. Hay.*) Lake Muskoka, Ont. (*Dr. Burgess, Dr. Britton and Miss Timmerman.*)

LOPHOTOCARPUS CALYCINUS, (Engelm.) J. G. Smith.

Sagittaria calycina, var. *spongiosa*, Macoun, Cat. Can. Plants, Vol. II., p. 78.

Several stations in New Brunswick. (*Fowler, Cat.*)

LISTERA AUSTRALIS, Lindl.

Poplar Ridge, Mer Bleue, near Ottawa, Ont., June 21st, 1893. (*Jas. Fletcher.*) New to Canada. Recorded in *Ottawa Naturalist*.

SCIRPUS SUBTERMINALIS, Torr.

In the Columbia River at Revelstoke, B.C., 1890. (*John Macoun, Herb. No. 7372.*)

ELEOCHARIS ROSTELLATA, Torr., var. OCCIDENTALIS, Wats.

Near Ainsworth, Kootaine Lake, B.C., 1890. (*John Macoun, Herb. No. 7386.*) Not before recorded from B.C. mainland.

AGROPYRUM VIOLACEUM, Hornm.

East Main River, near James Bay. (*A. H. D. Ross.*) Attikanak Branch, Hamilton River, Labrador. (*A. P. Low.*) Not before recorded from Labrador.